

## PATENT COOPERATION TREATY

PCT

## NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

United States Patent and Trademark  
Office  
(Box PCT)  
Crystal Plaza 2  
Washington, DC 20231  
ÉTATS-UNIS D'AMÉRIQUE

in its capacity as elected Office

Date of mailing (day/month/year)

29 January 1999 (29.01.99)

International application No.

PCT/EP98/03204

Applicant's or agent's file reference

980081PC

International filing date (day/month/year)

29 May 1998 (29.05.98)

Priority date (day/month/year)

30 May 1997 (30.05.97)

Applicant

GORDEEV, Sergey Konstantinovitch et al

1. The designated Office is hereby notified of its election made:



in the demand filed with the International Preliminary Examining Authority on:

28 December 1998 (28.12.98)



in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was

was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer

S. Mafla

Telephone No.: (41-22) 338.83.38

## PATENT COOPERATION TREATY

PCT

From the INTERNATIONAL BUREAU

NOTIFICATION OF THE RECORDING  
OF A CHANGE(PCT Rule 92bis.1 and  
Administrative Instructions, Section 422)

To:

HYLTNER, Jan-Olof  
AB Dahls Patenbyrå  
P.O. Box 606  
S-182 16 Danderyd  
SUÈDE

Date of mailing (day/month/year) 26 November 1998 (26.11.98)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference 980081PC	
International application No. PCT/EP98/03204	International filing date (day/month/year) 29 May 1998 (29.05.98)

1. The following indications appeared on record concerning:		
<input type="checkbox"/> the applicant	<input type="checkbox"/> the inventor	<input checked="" type="checkbox"/> the agent
<input type="checkbox"/> the common representative		
Name and Address HYLTNER, Jan-Olof Noréns Patentbyrå AB P.O. Box 10198 S-100 55 Stockholm Sweden	State of Nationality	State of Residence
	Telephone No. 46 8 7828080	
	Facsimile No. 46 8 6677151	
	Teleprinter No.	
2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:		
<input type="checkbox"/> the person	<input type="checkbox"/> the name	<input checked="" type="checkbox"/> the address
<input type="checkbox"/> the nationality		
<input type="checkbox"/> the residence		
Name and Address HYLTNER, Jan-Olof AB Dahls Patenbyrå P.O. Box 606 S-182 16 Danderyd Sweden	State of Nationality	State of Residence
	Telephone No. 46 8 753 60 50	
	Facsimile No. 46 8 753 37 93	
	Teleprinter No.	
3. Further observations, if necessary:		
4. A copy of this notification has been sent to:		
<input checked="" type="checkbox"/> the receiving Office	<input checked="" type="checkbox"/> the designated Offices concerned	
<input type="checkbox"/> the International Searching Authority	<input type="checkbox"/> the elected Offices concerned	
<input type="checkbox"/> the International Preliminary Examining Authority	<input type="checkbox"/> other:	

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer  Nicola Wolff
Facsimile No.: (41-22) 740.14.35	Telephone No.: (41-22) 338.83.38

## PCT JOINT COOPERATION TREATY

PCT

From the INTERNATIONAL BUREAU

NOTIFICATION OF THE RECORDING  
OF A CHANGE(PCT Rule 92bis.1 and  
Administrative Instructions, Section 422)

To:

HYLTNER, Jan-Olof  
AB Dahls Patenbyrå  
P.O. Box 606  
S-182 16 Danderyd  
SUÈDE

<b>Date of mailing</b> (day/month/year) 26 November 1998 (26.11.98)	<b>IMPORTANT NOTIFICATION</b>
<b>Applicant's or agent's file reference</b> 980081PC	
<b>International application No.</b> PCT/EP98/03204	<b>International filing date</b> (day/month/year) 29 May 1998 (29.05.98)

## 1. The following indications appeared on record concerning:

☒ the applicant
                    
 ☐ the inventor
                    
 ☐ the agent
                    
 ☐ the common representative

<b>Name and Address</b> ALFAR INTERNATIONAL LTD. 20 Clan William Terrace Dublin 2 Ireland	<b>State of Nationality</b> IE	<b>State of Residence</b> IE
	<b>Telephone No.</b>	
	<b>Facsimile No.</b>	
	<b>Teleprinter No.</b>	

## 2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

☒ the person
                    
 ☒ the name
                    
 ☒ the address
                    
 ☒ the nationality
                    
 ☒ the residence

<b>Name and Address</b> FRENTON LIMITED 2nd Floor, Atlantic House Circular Road Douglas IM1 1SQ Isle of Man United Kingdom	<b>State of Nationality</b> GB	<b>State of Residence</b> GB
	<b>Telephone No.</b>	
	<b>Facsimile No.</b>	
	<b>Teleprinter No.</b>	

## 3. Further observations, if necessary:

## 4. A copy of this notification has been sent to:

<input checked="" type="checkbox"/> the receiving Office	<input checked="" type="checkbox"/> the designated Offices concerned
<input type="checkbox"/> the International Searching Authority	<input type="checkbox"/> the elected Offices concerned
<input type="checkbox"/> the International Preliminary Examining Authority	<input type="checkbox"/> other:

<b>The International Bureau of WIPO</b> 34, chemin des Colombettes 1211 Geneva 20, Switzerland  Facsimile No.: (41-22) 740.14.35	<b>Authorized officer</b>  Nicola Wolff  Telephone No.: (41-22) 338.83.38
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## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>980081PC</b>	<b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. <b>PCT/EP 98/ 03204</b>	International filing date (day/month/year) <b>29/05/1998</b>	(Earliest) Priority Date (day/month/year) <b>30/05/1997</b>
Applicant <b>ALFAR INTERNATIONAL LTD et al.</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. ☐ **Certain claims were found unsearchable** (see Box I).
2. ☐ **Unity of invention is lacking** (see Box II).
3. ☐ The international application contains disclosure of a **nucleotide and/or amino acid sequence listing** and the international search was carried out on the basis of the sequence listing
  - ☐ filed with the international application.
  - ☐ furnished by the applicant separately from the international application,
    - ☐ but not accompanied by a statement to the effect that it did not include matter going beyond the disclosure in the international application as filed.
  - ☐ Transcribed by this Authority
4. With regard to the **title**, ☒ the text is approved as submitted by the applicant  
☐ the text has been established by this Authority to read as follows:
5. With regard to the **abstract**, ☒ the text is approved as submitted by the applicant  
☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this International Search Report, submit comments to this Authority.
6. The figure of the **drawings** to be published with the abstract is:  
 Figure No. --- ☐ as suggested by the applicant. ☐ None of the figures.  
☐ because the applicant failed to suggest a figure.  
☐ because this figure better characterizes the invention.

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 98/03204

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 6 C04B38/00 C04B35/52

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 C04B B01J B01D H01G

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X, P	WO 97 20333 A (ALFAR INTERNATIONAL) 5 June 1997  see claims 1,3,6-8,14; table 1	1,2,5, 15-17, 19,20,24
A	---	3,4,6-8
X	DATABASE WPI Week 8945 Derwent Publications Ltd., London, GB; AN 89-325039 XP002079250 & DD 268 677 A (VEB LEUNA WERKE ULBRICHT) see abstract	19-22
X	FR 2 390 381 A (LE CARBONE-LORAIN SA) 8 December 1978 see claims 1,2  --- -/-	19

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## ° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&amp;" document member of the same patent family

Date of the actual completion of the international search

1 October 1998

Date of mailing of the international search report

12/10/1998

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Daeleman, P

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/98/03204

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>DATABASE WPI  Week 9019  Derwent Publications Ltd., London, GB;  AN 90-146610  XP002079251  &amp; SU 1 497 206 A (LENGD REFRIG IND)  see abstract</p> <p>---</p>	1,2,15, 16
A	<p>DATABASE WPI  Week 9035  Derwent Publications Ltd., London, GB;  AN 90-264363  XP002079252  &amp; JP 02 184511 A (SUMITOMO ELECTRIC IND  CO)  see abstract</p> <p>---</p>	1,2,15, 16
A	<p>WO 97 11923 A (ALFAR INTERNATIONAL LTD)  3 April 1997</p> <p>---</p>	
A	<p>WO 97 16509 A (THE BOC GROUP PLC)  9 May 1997  see claims 1,3</p> <p>---</p>	19-21
A	<p>DATABASE WPI  Week 9623  Derwent Publications Ltd., London, GB;  AN 96-230415  XP002079253  &amp; WO 96 12560 A (CHINA PETRO-CHEMICAL  CORPORATION)  see abstract</p> <p>---</p>	
A	<p>EP 0 440 569 A (PECHINEY  ELECTROMETALLURGIE) 7 August 1991</p> <p>---</p>	
A	<p>GB 982 759 A (U K ATOMIC ENERGY AUTHORITY)  10 February 1965</p> <p>-----</p>	

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP98/03204

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9720333 A	05-06-1997	RU 2084036 C AU 4786296 A EP 0864167 A	10-07-1997 19-06-1997 16-09-1998
FR 2390381 A	08-12-1978	BE 866325 A DE 2820970 A JP 54001291 A US 4205055 A	14-08-1978 16-11-1978 08-01-1979 27-05-1980
WO 9711923 A	03-04-1997	RU 2093495 C AU 7103196 A EP 0852574 A	20-10-1997 17-04-1997 15-07-1998
WO 9716509 A	09-05-1997	AU 7321696 A	22-05-1997
EP 440569 A	07-08-1991	FR 2657603 A CA 2034725 A CS 9100195 A DE 69121257 D DE 69121257 T ES 2090280 T JP 2528392 B JP 4228482 A US 5460759 A US 5217930 A	02-08-1991 30-07-1991 13-08-1991 19-09-1996 02-01-1997 16-10-1996 28-08-1996 18-08-1992 24-10-1995 08-06-1993
GB 982759 A		NONE	

PCT

REC'D 09 JUN 1999

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference ---	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP98/03204	International filing date (day/month/year) 29/05/1998	Priority date (day/month/year) 30/05/1997
International Patent Classification (IPC) or national classification and IPC C04B38/00		
Applicant FRENTON LIMITED et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.


2. This REPORT consists of a total of 4 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 19 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand  28/12/1998	Date of completion of this report  07.06.99
Name and mailing address of the international preliminary examining authority:   European Patent Office D-80298 Munich Tel. (+49-89) 2399-0 Tx: 523656 epmu d Fax: (+49-89) 2399-4465	Authorized officer  Vathilakis, S  Telephone No. (+49-89) 2399 8585



# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/EP98/03204

## I. Basis of the report

1. This report has been drawn on the basis of (*substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.*):

### Description, pages:

1,2,8,10-14,20	as originally filed		
3-6,6a,7,9, 15-19	as received on	19/05/1999 with letter of	17/05/1999

### Claims, No.:

1-23	as received on	19/05/1999 with letter of	17/05/1999
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### Drawings, sheets:

1/1	as received on	19/05/1999 with letter of	17/05/1999
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2. The amendments have resulted in the cancellation of:

<input checked="" type="checkbox"/> the description,	pages:	17,18
<input checked="" type="checkbox"/> the claims,	Nos.:	24
<input checked="" type="checkbox"/> the drawings,	sheets:	2/2 (Fig. 3-4)

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

## III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application.

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/EP98/03204

☒ claims Nos. 18-23.

because:

☒ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):

**see separate sheet**

☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☐ no international search report has been established for the said claims Nos. .

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Yes:	Claims 1-17
	No:	Claims
Inventive step (IS)	Yes:	Claims 1-17
	No:	Claims
Industrial applicability (IA)	Yes:	Claims 1-17
	No:	Claims

**2. Citations and explanations**

**see separate sheet**

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

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International application No. PCT/EP98/03204

**III: Amendments:**

The amendments on claim 18 filed with the letter dated 17.05.1999 introduce subject-matter which extends beyond the content of the application as filed, contrary to Article 34(2)(b) PCT. The amendment concerned is the reference that "at least 3% of the mass consists of carbon without nanopores". This constitutes new subject matter having no counterpart in the original application. For this reason no opinion is established with regard to novelty, inventive step and industrial applicability for claims 18-23.

**V: Novelty-inventive step:**

Claims 1-17 have novelty and meet the criteria of inventive step under PCT Article 33 (2-3) because the prior art does not teach or suggest a method for producing a porous carbon body including the intermediate formation of a rigid carbonaceous skeleton using carbides as claimed.

The claimed method achieves materials having controlled and predetermined nanopores, an optimal ratio between the volume of transport pores (>100 nm) and nanopores (<10 nm) and complicated shapes having high mechanical strength can be produced.

The invention of claims 1-17 is, therefore, novel and is considered to involve an inventive step with respect to the available prior art documents, and is further considered to be industrially applicable.

# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference ---	<b>FOR FURTHER ACTION</b>		See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/EP98/03204	International filing date (day/month/year) 29/05/1998	Priority date (day/month/year) 30/05/1997	
International Patent Classification (IPC) or national classification and IPC C04B38/00			
Applicant FRENTON LIMITED et al.			


1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
  
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☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

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- I    ☒ Basis of the report
- II   ☐ Priority
- III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV   ☐ Lack of unity of invention
- V    ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI   ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand  28/12/1998	Date of completion of this report  07.06.99
Name and mailing address of the international preliminary examining authority:   European Patent Office D-80298 Munich Tel. (+49-89) 2399-0 Tx: 523656 epmu d Fax: (+49-89) 2399-4465	Authorized officer  Vathilakis, S  Telephone No. (+49-89) 2399 8585



# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/EP98/03204

## I. Basis of the report

1. This report has been drawn on the basis of (*substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.*):

### Description, pages:

1,2,8,10-14,20 as originally filed

3-6,6a,7,9, as received on 19/05/1999 with letter of 17/05/1999  
15-19

### Claims, No.:

1-23 as received on 19/05/1999 with letter of 17/05/1999

### Drawings, sheets:

1/1 as received on 19/05/1999 with letter of 17/05/1999

2. The amendments have resulted in the cancellation of:

- ☒ the description, pages: 17,18  
☒ the claims, Nos.: 24  
☒ the drawings, sheets: 2/2 (Fig. 3-4)

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

## III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

- ☐ the entire international application.

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/EP98/03204

☒ claims Nos. 18-23.

because:

☒ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):

**see separate sheet**

☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☐ no international search report has been established for the said claims Nos. .

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Yes:	Claims	1-17
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-17
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-17
	No:	Claims	

**2. Citations and explanations**

**see separate sheet**

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

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International application No. PCT/EP98/03204

**III: Amendments:**

The amendments on claim 18 filed with the letter dated 17.05.1999 introduce subject-matter which extends beyond the content of the application as filed, contrary to Article 34(2)(b) PCT. The amendment concerned is the reference that "at least 3% of the mass consists of carbon without nanopores". This constitutes new subject matter having no counterpart in the original application. For this reason no opinion is established with regard to novelty, inventive step and industrial applicability for claims 18-23.

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The claimed method achieves materials having controlled and predetermined nanopores, an optimal ratio between the volume of transport pores (>100 nm) and nanopores (<10 nm) and complicated shapes having high mechanical strength can be produced.

The invention of claims 1-17 is, therefore, novel and is considered to involve an inventive step with respect to the available prior art documents, and is further considered to be industrially applicable.